

FY07-LIX(59)-151

“Upgrade and Refurbishment of a Bench-Scale Entrained-Flow Slagging Gasifier ”

Submitted by: EERC

Principal Investigator: Steve Benson, Ph.D.

PARTICIPANTS

<u>Sponsor</u>	<u>Cost Share</u>
National Center for Hydrogen Technology	\$75,000
North American Coal Corporation	\$75,000
EPRI	\$75,000
NDIC	<u>\$129,000</u>
Total Cost	\$ 354,000
Project Schedule - 7 Months	Project Deliverables
Contract Date – 3/4/07	Status Reports:
Start Date – 3/1/07	6/1/07 (✓); 9/1/07 (✓)
Completion Date – 10/31/07	Final Report: 12/31/07 (–)
Extended to – April 30, 2008	4/30/08 (–)
– August 31, 2008	8/31/08 (–)
– January 31, 2009	1/31/09 ()

OBJECTIVE / STATEMENT OF WORK:

To help overcome the challenges of utilizing lignite coal with commercially available gasification systems, a bench-scale entrained-flow slagging gasifier will be built by upgrading and refurbishing an existing bench-scale gasifier, which will be used for syngas production, cleanup, and separation testing.

STATUS

Through June 1, 2007

North American Coal Corporation and EPRI have been added to the project as sponsors. Combined with the funding from NDIC and NCHT, the project is now fully funded.

Major design work on the system has been completed. Some of the system components have been ordered, including the solids feeder and the two lower pressure vessel sections beneath the gasifier. The heating elements and internal ceramic tubes have been ordered.

Through September 1, 2007

Major system components were ordered and have arrived at the EERC. Building construction delays have resulted in gasifier construction.

Through March 31, 2008

Refractory pours were completed for the lower pressure vessel sections of the gasifier. The forms for the upper sections were procured and a test pour was started.